Release notes for ENDF/B Development n-012_Mg_026 evaluation

April 26, 2017

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=1231, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=1231, MF= 1, MT=451
         SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER     148 TO     246
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=1231, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=1231, MF= 1, MT=451
         MOD =     2 OUT OF RANGE     0 -     0          RECORD NUMBER     148
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1231, MF= 2, MT=151 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1231, MF= 2, MT=151
         SECTION  2/151 NOT IN DIRECTORY               RECORD NUMBER     248
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1231, MF= 3, MT= 1 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1231, MF= 3, MT=  1
         SECTION  3/  1 NOT IN DIRECTORY               RECORD NUMBER     262
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1231, MF= 3, MT= 2 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1231, MF= 3, MT=  2
         SECTION  3/  2 NOT IN DIRECTORY               RECORD NUMBER     287
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1231, MF= 3, MT= 4 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1231, MF= 3, MT=  4
         SECTION  3/  4 NOT IN DIRECTORY               RECORD NUMBER     312
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1231, MF= 3, MT= 16 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 16
         SECTION  3/ 16 NOT IN DIRECTORY               RECORD NUMBER     332
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1231, MF= 3, MT= 22 (0): Directory (b)

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```
     ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 22
       SECTION  3/ 22 NOT IN DIRECTORY                RECORD NUMBER     340
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1231, MF= 3, MT= 28 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 28
       SECTION  3/ 28 NOT IN DIRECTORY                RECORD NUMBER     348
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1231, MF= 3, MT= 51 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 51
       SECTION  3/ 51 NOT IN DIRECTORY                RECORD NUMBER     355
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT= 52 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 52
       SECTION  3/ 52 NOT IN DIRECTORY                RECORD NUMBER     373
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT= 53 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 53
       SECTION  3/ 53 NOT IN DIRECTORY                RECORD NUMBER     390
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT= 54 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 54
       SECTION  3/ 54 NOT IN DIRECTORY                RECORD NUMBER     405
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT= 55 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 55
       SECTION  3/ 55 NOT IN DIRECTORY                RECORD NUMBER     420
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT= 56 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 56
       SECTION  3/ 56 NOT IN DIRECTORY                RECORD NUMBER     434
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT= 57 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 57
           SECTION  3/ 57 NOT IN DIRECTORY                 RECORD NUMBER     448
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT= 58 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 58
           SECTION  3/ 58 NOT IN DIRECTORY                 RECORD NUMBER     461
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT= 59 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 59
           SECTION  3/ 59 NOT IN DIRECTORY                 RECORD NUMBER     474
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT= 60 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 60
           SECTION  3/ 60 NOT IN DIRECTORY                 RECORD NUMBER     486
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT= 61 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 61
           SECTION  3/ 61 NOT IN DIRECTORY                 RECORD NUMBER     498
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT= 62 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 62
           SECTION  3/ 62 NOT IN DIRECTORY                 RECORD NUMBER     510
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT= 63 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 63
           SECTION  3/ 63 NOT IN DIRECTORY                 RECORD NUMBER     521
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT= 91 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1231, MF= 3, MT= 91
           SECTION  3/ 91 NOT IN DIRECTORY                 RECORD NUMBER     532
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT=102 (0): Directory (b)

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```
      ERROR(S) FOUND IN MAT=1231, MF= 3, MT=102
         SECTION  3/102 NOT IN DIRECTORY               RECORD NUMBER    541
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT=103 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 3, MT=103
         SECTION  3/103 NOT IN DIRECTORY               RECORD NUMBER    562
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 3, MT=107 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 3, MT=107
         SECTION  3/107 NOT IN DIRECTORY               RECORD NUMBER    571
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 2 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT=  2
         SECTION  4/  2 NOT IN DIRECTORY               RECORD NUMBER    581
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 16 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 16
         SECTION  4/ 16 NOT IN DIRECTORY               RECORD NUMBER    761
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 22 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 22
         SECTION  4/ 22 NOT IN DIRECTORY               RECORD NUMBER    772
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 28 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 28
         SECTION  4/ 28 NOT IN DIRECTORY               RECORD NUMBER    783
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 51 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 51
         SECTION  4/ 51 NOT IN DIRECTORY               RECORD NUMBER    794
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 52 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 52
         SECTION  4/ 52 NOT IN DIRECTORY                    RECORD NUMBER      885
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 53 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 53
         SECTION  4/ 53 NOT IN DIRECTORY                    RECORD NUMBER      963
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 54 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 54
         SECTION  4/ 54 NOT IN DIRECTORY                    RECORD NUMBER      984
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 55 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 55
         SECTION  4/ 55 NOT IN DIRECTORY                    RECORD NUMBER     1004
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 56 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 56
         SECTION  4/ 56 NOT IN DIRECTORY                    RECORD NUMBER     1024
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 57 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 57
         SECTION  4/ 57 NOT IN DIRECTORY                    RECORD NUMBER     1044
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 58 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 58
         SECTION  4/ 58 NOT IN DIRECTORY                    RECORD NUMBER     1064
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 59 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 59
         SECTION  4/ 59 NOT IN DIRECTORY                    RECORD NUMBER     1082
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 60 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 60
         SECTION  4/ 60 NOT IN DIRECTORY                    RECORD NUMBER    1100
```

40. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 61 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 61
         SECTION  4/ 61 NOT IN DIRECTORY                    RECORD NUMBER    1118
```

41. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 62 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 62
         SECTION  4/ 62 NOT IN DIRECTORY                    RECORD NUMBER    1136
```

42. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 63 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 63
         SECTION  4/ 63 NOT IN DIRECTORY                    RECORD NUMBER    1154
```

43. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 4, MT= 91 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 4, MT= 91
         SECTION  4/ 91 NOT IN DIRECTORY                    RECORD NUMBER    1172
```

44. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 5, MT= 16 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 5, MT= 16
         SECTION  5/ 16 NOT IN DIRECTORY                    RECORD NUMBER    1191
```

45. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 5, MT= 22 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 5, MT= 22
         SECTION  5/ 22 NOT IN DIRECTORY                    RECORD NUMBER    1343
```

46. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 5, MT= 28 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF= 5, MT= 28
         SECTION  5/ 28 NOT IN DIRECTORY                    RECORD NUMBER    1491
```

47. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF= 5, MT= 91 (0): Directory (b)

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```
        ERROR(S) FOUND IN MAT=1231, MF= 5, MT= 91
          SECTION  5/ 91 NOT IN DIRECTORY               RECORD NUMBER    1587
```

48. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1231, MF=12, MT= 16 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1231, MF=12, MT= 16
          SECTION 12/ 16 NOT IN DIRECTORY               RECORD NUMBER    1862
```

49. Missing a gamma spectrum for continuum of gammas
   MAT=1231, MF=12, MT= 16 (1): No gamma spectrum

```
        ERROR(S) FOUND IN MAT=1231, MF=12, MT= 16
          CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

50. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1231, MF=12, MT= 22 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1231, MF=12, MT= 22
          SECTION 12/ 22 NOT IN DIRECTORY               RECORD NUMBER    1870
```

51. Missing a gamma spectrum for continuum of gammas
   MAT=1231, MF=12, MT= 22 (1): No gamma spectrum

```
        ERROR(S) FOUND IN MAT=1231, MF=12, MT= 22
          CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

52. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1231, MF=12, MT= 28 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1231, MF=12, MT= 28
          SECTION 12/ 28 NOT IN DIRECTORY               RECORD NUMBER    1877
```

53. Missing a gamma spectrum for continuum of gammas
   MAT=1231, MF=12, MT= 28 (1): No gamma spectrum

```
        ERROR(S) FOUND IN MAT=1231, MF=12, MT= 28
          CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

54. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1231, MF=12, MT= 51 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1231, MF=12, MT= 51
          SECTION 12/ 51 NOT IN DIRECTORY               RECORD NUMBER    1884
```

55. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1231, MF=12, MT= 52 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1231, MF=12, MT= 52
          SECTION 12/ 52 NOT IN DIRECTORY               RECORD NUMBER    1888
```

56. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT= 53 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=12, MT= 53
      SECTION 12/ 53 NOT IN DIRECTORY                  RECORD NUMBER    1892
```

57. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT= 54 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=12, MT= 54
      SECTION 12/ 54 NOT IN DIRECTORY                  RECORD NUMBER    1896
```

58. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT= 55 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=12, MT= 55
      SECTION 12/ 55 NOT IN DIRECTORY                  RECORD NUMBER    1900
```

59. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT= 56 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=12, MT= 56
      SECTION 12/ 56 NOT IN DIRECTORY                  RECORD NUMBER    1904
```

60. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT= 57 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=12, MT= 57
      SECTION 12/ 57 NOT IN DIRECTORY                  RECORD NUMBER    1909
```

61. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT= 58 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=12, MT= 58
      SECTION 12/ 58 NOT IN DIRECTORY                  RECORD NUMBER    1913
```

62. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT= 59 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=12, MT= 59
      SECTION 12/ 59 NOT IN DIRECTORY                  RECORD NUMBER    1918
```

63. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT= 60 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=12, MT= 60
      SECTION 12/ 60 NOT IN DIRECTORY                  RECORD NUMBER    1922
```

64. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT= 61 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=12, MT= 61
       SECTION 12/ 61 NOT IN DIRECTORY              RECORD NUMBER    1926
```

65. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT= 62 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=12, MT= 62
       SECTION 12/ 62 NOT IN DIRECTORY              RECORD NUMBER    1931
```

66. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT= 63 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=12, MT= 63
       SECTION 12/ 63 NOT IN DIRECTORY              RECORD NUMBER    1936
```

67. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT= 91 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=12, MT= 91
       SECTION 12/ 91 NOT IN DIRECTORY              RECORD NUMBER    1941
```

68. Missing a gamma spectrum for continuum of gammas
MAT=1231, MF=12, MT= 91 (1): No gamma spectrum

```
    ERROR(S) FOUND IN MAT=1231, MF=12, MT= 91
       CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

69. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT=102 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=12, MT=102
       SECTION 12/102 NOT IN DIRECTORY              RECORD NUMBER    1950
```

70. Missing a gamma spectrum for continuum of gammas
MAT=1231, MF=12, MT=102 (1): No gamma spectrum

```
    ERROR(S) FOUND IN MAT=1231, MF=12, MT=102
       CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

71. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=12, MT=103 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=12, MT=103
       SECTION 12/103 NOT IN DIRECTORY              RECORD NUMBER    1963
```

72. Missing a gamma spectrum for continuum of gammas
MAT=1231, MF=12, MT=103 (1): No gamma spectrum

```
      ERROR(S) FOUND IN MAT=1231, MF=12, MT=103
         CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

73. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=12, MT=107 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF=12, MT=107
         SECTION 12/107 NOT IN DIRECTORY              RECORD NUMBER    1971
```

74. Missing a gamma spectrum for continuum of gammas
    MAT=1231, MF=12, MT=107 (1): No gamma spectrum

```
      ERROR(S) FOUND IN MAT=1231, MF=12, MT=107
         CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

75. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=14, MT= 16 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF=14, MT= 16
         SECTION 14/ 16 NOT IN DIRECTORY              RECORD NUMBER    1981
```

76. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=14, MT= 22 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF=14, MT= 22
         SECTION 14/ 22 NOT IN DIRECTORY              RECORD NUMBER    1983
```

77. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=14, MT= 28 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF=14, MT= 28
         SECTION 14/ 28 NOT IN DIRECTORY              RECORD NUMBER    1985
```

78. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=14, MT= 51 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF=14, MT= 51
         SECTION 14/ 51 NOT IN DIRECTORY              RECORD NUMBER    1987
```

79. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=14, MT= 52 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF=14, MT= 52
         SECTION 14/ 52 NOT IN DIRECTORY              RECORD NUMBER    1989
```

80. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=14, MT= 53 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF=14, MT= 53
         SECTION 14/ 53 NOT IN DIRECTORY              RECORD NUMBER    1991
```

81. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=14, MT= 54 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=14, MT= 54
      SECTION 14/ 54 NOT IN DIRECTORY                 RECORD NUMBER    1993
```

82. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=14, MT= 55 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=14, MT= 55
      SECTION 14/ 55 NOT IN DIRECTORY                 RECORD NUMBER    1995
```

83. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=14, MT= 56 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=14, MT= 56
      SECTION 14/ 56 NOT IN DIRECTORY                 RECORD NUMBER    1997
```

84. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=14, MT= 57 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=14, MT= 57
      SECTION 14/ 57 NOT IN DIRECTORY                 RECORD NUMBER    1999
```

85. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=14, MT= 58 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=14, MT= 58
      SECTION 14/ 58 NOT IN DIRECTORY                 RECORD NUMBER    2001
```

86. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=14, MT= 59 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=14, MT= 59
      SECTION 14/ 59 NOT IN DIRECTORY                 RECORD NUMBER    2003
```

87. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=14, MT= 60 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=14, MT= 60
      SECTION 14/ 60 NOT IN DIRECTORY                 RECORD NUMBER    2005
```

88. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=14, MT= 61 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1231, MF=14, MT= 61
      SECTION 14/ 61 NOT IN DIRECTORY                 RECORD NUMBER    2007
```

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89. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=14, MT= 62 (0): Directory (b)

```
  ERROR(S) FOUND IN MAT=1231, MF=14, MT= 62
     SECTION 14/ 62 NOT IN DIRECTORY                RECORD NUMBER    2009
```

90. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=14, MT= 63 (0): Directory (b)

```
  ERROR(S) FOUND IN MAT=1231, MF=14, MT= 63
     SECTION 14/ 63 NOT IN DIRECTORY                RECORD NUMBER    2011
```

91. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=14, MT= 91 (0): Directory (b)

```
  ERROR(S) FOUND IN MAT=1231, MF=14, MT= 91
     SECTION 14/ 91 NOT IN DIRECTORY                RECORD NUMBER    2013
```

92. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=14, MT=102 (0): Directory (b)

```
  ERROR(S) FOUND IN MAT=1231, MF=14, MT=102
     SECTION 14/102 NOT IN DIRECTORY                RECORD NUMBER    2015
```

93. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=14, MT=103 (0): Directory (b)

```
  ERROR(S) FOUND IN MAT=1231, MF=14, MT=103
     SECTION 14/103 NOT IN DIRECTORY                RECORD NUMBER    2017
```

94. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=14, MT=107 (0): Directory (b)

```
  ERROR(S) FOUND IN MAT=1231, MF=14, MT=107
     SECTION 14/107 NOT IN DIRECTORY                RECORD NUMBER    2019
```

95. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=15, MT= 16 (0): Directory (b)

```
  ERROR(S) FOUND IN MAT=1231, MF=15, MT= 16
     SECTION 15/ 16 NOT IN DIRECTORY                RECORD NUMBER    2022
```

96. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1231, MF=15, MT= 22 (0): Directory (b)

```
  ERROR(S) FOUND IN MAT=1231, MF=15, MT= 22
     SECTION 15/ 22 NOT IN DIRECTORY                RECORD NUMBER    2101
```

97. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=15, MT= 28 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=15, MT= 28
      SECTION 15/ 28 NOT IN DIRECTORY              RECORD NUMBER    2169
```

98. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=15, MT= 91 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=15, MT= 91
      SECTION 15/ 91 NOT IN DIRECTORY              RECORD NUMBER    2215
```

99. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=15, MT=102 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=15, MT=102
      SECTION 15/102 NOT IN DIRECTORY              RECORD NUMBER    2489
```

100. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=15, MT=103 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=15, MT=103
      SECTION 15/103 NOT IN DIRECTORY              RECORD NUMBER    2935
```

101. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=15, MT=107 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=15, MT=107
      SECTION 15/107 NOT IN DIRECTORY              RECORD NUMBER    3074
```

102. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=33, MT= 2 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=33, MT=  2
      SECTION 33/  2 NOT IN DIRECTORY              RECORD NUMBER    3246
```

103. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=33, MT= 4 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=33, MT=  4
      SECTION 33/  4 NOT IN DIRECTORY              RECORD NUMBER    3336
```

104. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=33, MT= 16 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1231, MF=33, MT= 16
      SECTION 33/ 16 NOT IN DIRECTORY              RECORD NUMBER    3366
```

105. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1231, MF=33, MT=102 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1231, MF=33, MT=102
        SECTION 33/102 NOT IN DIRECTORY                 RECORD NUMBER    3375
```

- **psyche** Warnings:

    1. Strength function in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ISOTOPE MASS = 26. L = 1 / STRENGTH FUNCTION IS 6.00199E-04 / STRENGTH FUNCTION 6.00199E-04 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

```
      FILE  2
         SECTION 151
             ISOTOPE MASS =  26. L =  1
                         STRENGTH FUNCTION IS  6.00199E-04
                                    STRENGTH FUNCTION 6.00199E-04
      ... [1 more lines]
```

- **fudge-4.0** Warnings:

    1. Missing a channel with a particular angular momenta combination
    resonances / resolved / MultiLevel_BreitWigner (Error # 0): missingResonanceChannel

```
      WARNING: Missing a channel with angular momenta combination L = 0, J = 1.5 and S = 1.5 for "capture"
      WARNING: Missing a channel with angular momenta combination L = 1, J = 0.5 and S = 1.5 for "capture"
      WARNING: Missing a channel with angular momenta combination L = 1, J = 1.5 and S = 1.5 for "capture"
      WARNING: Missing a channel with angular momenta combination L = 1, J = 2.5 and S = 1.5 for "capture"
```

    2. Potential scattering hasn't converted, you need more L's!
    resonances / resolved (Error # 1): potentialScatteringNotConverged

```
      WARNING: Potential scattering hasn't converged by L=1 at E=450000.0 eV, xs[1]/xs[0]=1.15859836185% > 0.1%
```

    3. Cross section does not match sum of linked reaction cross sections
    crossSectionSum label 0: total (Error # 0): CS Sum.

```
      WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.21%
```

    4. Cross section does not match sum of linked reaction cross sections
    crossSectionSum label 1: (z,n) (Error # 0): CS Sum.

```
      WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 1.15%
```

    5. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
    Section 0 (n + Mg26): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
      WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

    6. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
    Section 0 (n + Mg26): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

7. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 1 ((z,n)): / Form 'eval': (Error # 0): Condition num.

   ```
   WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
   ```

8. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 2 (n[multiplicity:'2'] + Mg25 + gamma): / Form 'eval': (Error # 0): Condition num.

   ```
   WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
   ```

9. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 3 (Mg27 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.

   ```
   WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
   ```

10. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
    Section 3 (Mg27 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

    ```
    WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
    ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated Q values disagree.
     reaction label 16: n + H1 + Na25 + gamma (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: -14136325.2996521 eV vs -1.41466e7 eV!
     ```

  2. Calculated and tabulated Q values disagree.
     reaction label 19: H1 + (Na26_s ->Na26 + gamma) (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: -8560510.229885101 eV vs -7920920. eV!
     ```

  3. Calculated and tabulated Q values disagree.
     reaction label 20: He4 + (Ne23_s ->Ne23 + gamma) (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: -5404725.841453552 eV vs -5416640. eV!
     ```

- `njoy2012` Warnings:

  1. Evaluation has no unresolved resonance parameters given
     unresr...calculation of unresolved resonance cross sections (0): No URR

     ```
     ---message from unresr---mat 1231 has no unresolved parameters
                              copy as is to nout
     ```

  2. Evaluation has no unresolved resonance parameters given
     purr...probabalistic unresolved calculation (0): No URR

```
---message from purr---mat 1231 has no unresolved parameters
                      copy as is to nout
```

3. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
   groupr...compute self-shielded group-averaged cross-sections (0): GROUPR/conver (0)

```
---message from conver---cannot do complete particle production for mt= 16
                      only mf4/mf5 provided
```

4. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
   groupr...compute self-shielded group-averaged cross-sections (1): GROUPR/conver (0)

```
---message from conver---cannot do complete particle production for mt= 22
                      only mf4/mf5 provided
```

5. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
   groupr...compute self-shielded group-averaged cross-sections (2): GROUPR/conver (0)

```
---message from conver---cannot do complete particle production for mt= 28
                      only mf4/mf5 provided
```

6. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
   groupr...compute self-shielded group-averaged cross-sections (3): GROUPR/conver (0)

```
---message from conver---cannot do complete particle production for mt= 91
                      only mf4/mf5 provided
```

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